REMARKS

Upon entry of the foregoing amendments, claims 1-10 remain pending in the present application. The Abstract has been amended to comply with the required length of 50 to 150 words. Claims 1, 4, 6, and 9 have been amended to clarify the subject matter that Applicant regards as the invention. The subject matter of independent claims 1, 4, 6, and 9 can be found in the original application at least with respect to FIGs. 1-4 and the corresponding detailed description. Accordingly, Applicant respectfully submits that no new matter has been introduced to the application.

In response to item 3 of paper no. 2, Applicant respectfully traverses the rejection of claims 1-10 under 35 U.S.C. §103(a) over *Hooker* in view of *Blasciak.*

Applicant respectfully submits that pending claims 1-10 are patentable over the cited art of record. Accordingly, reconsideration and allowance of the application and presently pending claims 1-10 are respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a) - Claims 1-10

A. Statement of the Rejection

The Office Action indicates that claims 1-10 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No.: 5,787,286, hereafter *Hooker*, in view of U.S. Patent No. 5,265,254, hereafter *Blasciak.*

B. Discussion of the Rejection

Applicant respectfully traverses the rejection of claims 1-10. In order for a claim to be properly rejected under 35 U.S.C. §103, "[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In this regard, the cited references (*i.e.*, *Hooker* and *Blasciak*) do not show the combination of elements recited in Applicant's claimed invention. Thus, the cited references fail to meet the burden of disclosing, teaching, or suggesting each feature

of Applicant's claimed invention. Consequently, for at least this reason the rejection fails to establish a *prima facie* case of obviousness when applied to Applicant's claims 1-10. Accordingly, for at least this reason, the claim rejections under 35 U.S.C. §103 should be withdrawn.

Specifically, and with particular regard to the claims, each of Applicant's amended independent claims include at least one element that is not disclosed, taught, or suggested by the apparatus for performing software performance checks apparently disclosed in *Hooker* and the system for debugging software through the use of code markers apparently disclosed in *Blasciak.*

In addition, Applicant disagrees with the assertion that one of ordinary skill in the art would be motivated to combine *Hooker's* tabulation instructions with the teachings of *Blasciak.* As explained in the Background of the Invention section, *Hooker* is directed to a real-time software solution for obtaining performance data that does not occupy processor time. See *Hooker*, column 1, lines 51-56. As further explained in the Disclosure of the Invention section, *Hooker* apparently discloses inserting at least one tabulation instruction in a first plurality of instructions and executing the tabulation instruction using a second execution unit. The tabulation instruction enables the system of *Hooker* to monitor or otherwise measure the execution performance of the first plurality of instructions without degrading the execution performance of the first plurality of instructions. See *Hooker*, column 2, lines 5-24. As admitted by the Office in the statement of the rejection, *Hooker* does not specify the nature of, nor does *Hooker* suggest, inserting a correctness check function associated with a particular portion of the first set of instructions.

To overcome the admitted failure of *Hooker* to disclose, teach, or suggest Applicant's claimed invention, the statement of the rejection alleges that *Blasciak* teaches identifying insertion points at which to link instructions to verify correctness of time-based margins, references, context switches, and branch conditions. Office Action, page 3, lines 7-12. Absent any reasoned analysis or explanation how identifying insertion points at which to link instructions designated to verify time-based margins, references, context switches, and branch conditions equates or suggests Applicant's correctness check function, the Office Action rejection concludes that the proposed combination obviates Applicant's independent claim 1.

Applicant respectfully disagrees with the assertion that the proposed combination of *Hooker* and *Blasciak* obviates Applicant's claimed method and apparatus. First, Applicant notes that *Hooker* is directed to a method for tabulating a first set of instructions without degrading the performance of the compiled code. In contrast, *Blasciak*, on its face, indicates that the method for identifying insertion points, inserting code markers, and linking instructions to the code marker, results in some intrusion into the underlying software. See *Blasciak*, column 3, lines 10-21. Consequently, one of ordinary skill in the art would not be motivated to combine an intrusive code marker with *Hooker's* tabulation instructions as the result of the proposed combination would negate the alleged advantages of the teachings of *Hooker*.

Second, as explained in detail below, even if one skilled in the art would look to combine the teachings of *Blasciak* with the apparatus and method of *Hooker*, the proposed combination would still fail to disclose, teach, or suggest each element and limitation of Applicant's claimed invention.

1. Claims 1-3

Applicant's independent claim 1 is exemplary. For convenience of analysis, independent claim 1, as amended, is repeated below in its entirety.

> 1. An apparatus for performing correctness checks, the apparatus comprising:
> logic configured to receive ***a first set of instructions and generate an initial instruction schedule*** from the first set of instructions, ***the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***;
> logic configured to evaluate the initial instruction schedule to determine whether the initial instruction schedule includes spare instruction slots into which said one or more instructions associated with the correctness check function can be inserted; and
> logic configured to insert said one or more instructions associated with the correctness check function into the spare instruction slots if enough spare instruction slots exist

> in the initial instruction schedule for accommodating said one or more instructions.

(Applicant's independent Claim 1 - *emphasis added.*)

As noted above and admitted by the Office, *Hooker* does not specify the nature of, nor does *Hooker* suggest, "***inserting a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***."

Furthermore, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest at least the element emphasized above. As specifically disclosed in the Abstract of *Blasciak*, the inserted code markers provide a method for dynamically extracting information from a running software system under test using low intrusion print statements, encoded I/O writes on procedure entries and exits and the like. See Abstract – *Blasciak*. Applicant respectfully submits that *Blasciak* apparently discloses extracting information by printing or otherwise writing the contents of memory upon encountering specific events in code under test. *Blasciak* apparently inserts links to instructions for extracting data responsive to code markers corresponding to events..

In contrast, Applicant's claimed logic requires a "***correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***." For at least the reason that *Blasciak* does not disclose, teach, or suggest a function that evaluates a value, a range of values, or a relationship between values after executing a portion of the code under test, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest Applicant's claimed correctness check function. Thus, claim 1 is allowable over the proposed combination and the rejection should be withdrawn.

Because independent claim 1 is allowable, dependent claims 2 and 3 are also allowable. *See In re Fine*, 837, F.2d 1071, 5 U.S.P.Q.2d 1596, 1598. (Fed. Cir. 1988.) Accordingly, Applicant respectfully requests that the rejection of claims 1-3 be withdrawn.

2. Claims 4 and 5

For convenience of analysis, independent claim 4, as amended, is repeated below in its entirety.

> 4. An apparatus for performing correctness checks opportunistically, the apparatus comprising:
> ***means for receiving a first set of instructions and for generating an initial instruction schedule from the first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions;***
> means for evaluating the initial instruction schedule to determine whether the initial instruction schedule includes spare instruction slots into which said one or more instructions associated with the correctness check function can be inserted; and
> means for inserting said one or more instructions associated with the correctness check function into the spare instruction slots if enough spare instruction slots exist in the initial instruction schedule for accommodating said one or more instructions.

(Applicant's independent Claim 4 - *emphasis added.*)

As noted above and admitted by the Office, *Hooker* does not specify the nature of, nor does *Hooker* suggest, "***means for receiving a first set of instructions and for generating an initial instruction schedule from the first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***."

Furthermore, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest at least the emphasized element above. As shown above, *Blasciak* apparently discloses extracting information by printing or otherwise writing the contents of memory upon encountering specific events in code under test. *Blasciak*

apparently inserts links to instructions for extracting data responsive to code markers corresponding to events.

In *contrast*, Applicant's claimed means for receiving a first set of instructions requires a "***correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***." For at least the reason that *Blasciak* does not disclose, teach, or suggest a function that evaluates a value, a range of values, or a relationship between values after executing a portion of the code under test, Blasciak fails to remedy the failure of *Hooker* to disclose, teach, or suggest Applicant's claimed correctness check function. Thus, claim 4 is allowable over the proposed combination and the rejection should be withdrawn.

Because independent claim 4 is allowable, dependent claim 5 is also allowable. *See In re Fine, supra.* Accordingly, Applicant respectfully requests that the rejection of claim 5 be withdrawn.

3. Claims 6-8

For convenience of analysis, independent claim 6, as amended, is repeated below in its entirety.

> 6. A method for performing correctness checks opportunistically, the method comprising the steps of:
> ***receiving a first set of instructions and generating an initial instruction schedule from the first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***;
> evaluating the initial instruction schedule to determine whether the initial instruction schedule includes spare instruction slots into which said one or more instructions associated with the correctness check function can be inserted; and
> inserting said one or more instructions associated with the correctness check function into the spare instruction slots if enough spare instruction slots exist in the initial instruction schedule for accommodating said one or more instructions.

(Applicant's independent Claim 6 - *emphasis added.*)

As noted above and admitted by the Office, *Hooker* does not specify the nature of, nor does *Hooker* suggest, "***receiving a first set of instructions and generating an initial instruction schedule from the first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***."

Furthermore, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest at least the emphasized element above. As shown above, *Blasciak* apparently discloses extracting information by printing or otherwise writing the contents of memory upon encountering specific events in code under test. *Blasciak* apparently inserts links to instructions for extracting data responsive to code markers corresponding to events.

In contrast, Applicant's claimed method recites "***receiving a first set of instructions and generating an initial instruction schedule from the first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***." For at least the reason that *Blasciak* does not disclose, teach, or suggest a function that evaluates a value, a range of values, or a relationship between values after executing a portion of the code under test, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest Applicant's claimed method. Thus, claim 6 is allowable over the proposed combination and the rejection should be withdrawn.

Because independent claim 6 is allowable, dependent claims 7 and 8 are also allowable. *See In re Fine*, *supra*. Accordingly, Applicant respectfully requests that the rejection of claims 7 and 8 should be withdrawn.

4. Claims 9 and 10

For convenience of analysis, independent claim 9, as amended, is repeated below in its entirety.

> 9. A computer program for performing correctness checks opportunistically, the computer program being embodied on a computer-readable medium, the computer program comprising:
>
> ***a first code segment, the first code segment generating an initial instruction schedule from a first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***;
>
> a second code segment, the second code segment evaluating the initial instruction schedule to determine whether the initial instruction schedule includes spare instruction slots into which said one or more instructions associated with the correctness check function can be inserted; and
>
> a third code segment, the third code segment inserting said one or more instructions associated with the correctness check function into the spare instruction slots if enough spare instruction slots exist in the initial instruction schedule to accommodate said one or more instructions.

(Applicant's independent Claim 9 - *emphasis added.*)

As noted above and admitted by the Office, *Hooker* does not specify the nature of, nor does *Hooker* suggest, "***a first code segment, the first code segment generating an initial instruction schedule from a first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***."

Furthermore, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest at least the emphasized element above. As shown above, *Blasciak* apparently discloses extracting information by printing or otherwise writing the

contents of memory upon encountering specific events in code under test. *Blasciak* apparently inserts links to instructions for extracting data responsive to code markers corresponding to events.

In contrast, Applicant's claimed computer-readable medium recites "***a first code segment, the first code segment generating an initial instruction schedule from a first set of instructions, the first set of instructions including one or more instructions associated with a correctness check function associated with a particular portion of the first set of instructions, the correctness check function configured to evaluate at least one of a value, a range of values, and a relationship between values after execution of the particular portion of the first set of instructions***." For at least the reason that *Blasciak* does not disclose, teach, or suggest a function that evaluates a value, a range of values, or a relationship between values after executing a portion of the code under test, *Blasciak* fails to remedy the failure of *Hooker* to disclose, teach, or suggest Applicant's claimed computer-readable medium. Thus, claim 9 is allowable over the proposed combination and the rejection should be withdrawn.

Because independent claim 9 is allowable, dependent claim 10 is allowable. *See In re Fine*, *supra*. Accordingly, Applicant respectfully requests that the rejection of claims 7 and 8 should be withdrawn.

CONCLUSION

In summary, Applicant respectfully requests that all outstanding claim rejections be withdrawn. Applicants respectfully submit that all pending claims 1-10 are allowable over the cited art of reference and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comment regarding the Applicant's response or believe that a teleconference would expedite prosecution of the pending claims, Applicant requests that the Examiner telephone Applicant's undersigned attorney.

Respectfully submitted,

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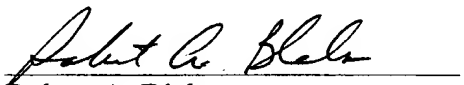
By: 

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